IN THE CLAIMS

Please cancel claim 1 and add new claims 33-40.

Claims 1-32 (Canceled)

33. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate, and

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident;

the information recording medium further comprising a transparent layer disposed between the first substrate and the first lower protective layer.

34. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate, and

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident;

the information recording medium further comprising an interface layer disposed at at least one interface selected from the group consisting of an interface between the first lower protective layer and the first recording layer and an interface between the first upper protective layer and the first recording layer.

35. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate, and

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second

reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident;

the information recording medium further comprising an interface layer disposed at at least one interface selected from the group consisting of an interface between the second lower protective layer and the second recording layer and an interface between the second upper protective layer and the second recording layer.

36. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate, and

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident;

the information recording medium further comprising an interface layer disposed at at least one interface selected from the group consisting of an interface between the first upper protective layer and the first reflective layer and an interface between the second upper protective layer and the second reflective layer.

37. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate, and

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident;

the information recording medium further comprising a transmittance adjusting layer for adjusting a transmittance of the first information layer between the first reflective layer and the optically separating layer.

38. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate, and

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident;

the information recording medium further comprising a transmittance adjusting layer for adjusting a transmittance of the first information layer between the first reflective layer and the optically separating layer further comprising an interface layer disposed between the first reflective layer and the transmittance adjusting layer.

39. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate,

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident, and

a thickness of the first substrate is in a range of 10μm to 800μm.

40. (New) An information recording medium comprising a first information layer and a second information layer,

wherein the first information layer comprises a first recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by irradiation of a laser beam or Joule heat generated by application of current,

the second information layer comprises a second recording layer in which a reversible phase change is caused between a crystalline phase and an amorphous phase by the irradiation of the laser beam or the Joule heat generated by the application of the current,

the first recording layer is made of a first material,

the second recording layer is made of a second material,

the first material is different from the second material,

in the first and second recording layers, a reversible phase change is caused by the irradiation of the laser beam,

the first information layer is disposed closer to a side from which the laser beam is incident than the second information layer, and

a melting point of the second material is lower than that of the first material;

the information recording medium further comprising an optically separating layer disposed between the first information layer and the second information layer,

wherein the first information layer further comprises a first substrate, a first lower protective layer, a first upper protective layer, and a first reflective layer,

the second information layer further comprises a second lower protective layer, a second upper protective layer, a second reflective layer, and a second substrate,

the first substrate, the first lower protective layer, the first recording layer, the first upper protective layer, the first reflective layer, the optically separating layer, the second lower protective layer, the second recording layer, the second upper protective layer, the second

reflective layer, and the second substrate are disposed in this order from the side from which the laser beam is incident, and

a thickness of the second substrate is in a range of 400μm to 1300μm.